

# On Some Emesinae From South Africa (Reduviidae, Hemiptera)

by

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(Submitted through Mr. A. L. Capener)

The present paper contains notes and descriptions of South African Emesinae, partly collected by Mr. A. L. Capener, of Cleveland, Johannesburg, and partly received from Dr. W. E. China, British Museum (Natural History) and Dr. R. Sailer, United States National Museum. Thanks are due to all these gentlemen for allowing me to study their specimens. The types of the new species are deposited as mentioned.

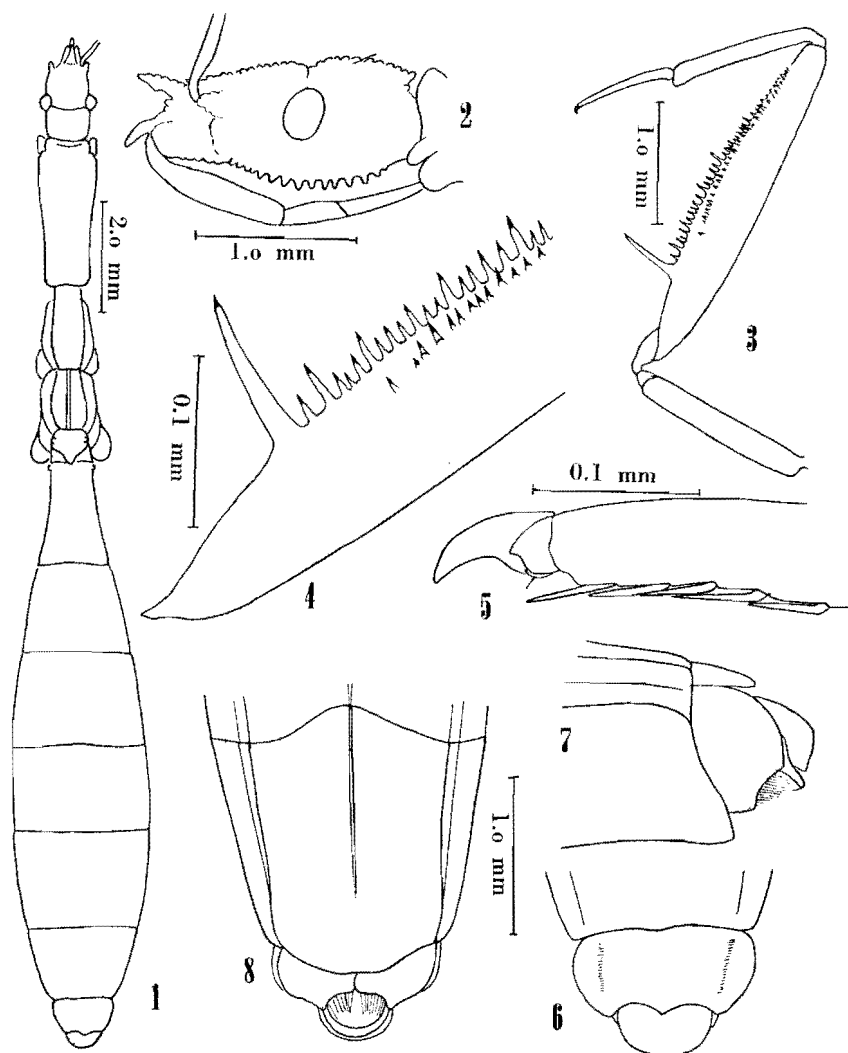
Very few species of this fascinating subfamily have been described from Southern Africa, but I have every reason to believe that their number must be considerable. Winged specimens may be obtained at light; winged and apterous forms can be found under stones and logs, under bark of trees, in caves, in spider webs, and many can be obtained by beating bushes and other low vegetation. The author will gladly undertake determination and description of any specimens sent to him for this purpose.

## ***Bargylia africana* sp.n.**

Apterous female.—Total length 12.1 mm; head 1.3, thorax 3.8 and abdomen 7.0 mm.

General colour of body dark piceous; dark reddish brown: dorsal surface of head, longitudinal fasciae of thorax and abdomen, base of first article of the antennae, anterior processes of head, rostrum, fore tibia and tarsus; general colour of fore coxae and trochanters, femora of all pairs and median and posterior tibiae, stramineous; also stramineous the superior region of the anterior acetabula, as well as a spot on the anterior border of the connexivum dorsally. External surface of fore coxa and trochanter with a median longitudinal dark fascia; spines of fore femur clear yellowish, with exception of their extremity; internal surface of coxa clear coloured with a not very distinctive dark apical spot; internal surface of fore femur with three dark and not very distinct diagonal fasciae. Median and posterior femora somewhat darkened apically, becoming piceous

towards extreme apex, with two subapical bright yellowish annuli; median and posterior tibiae basally with a short dark brown annulus and a longer subbasal one; their apex also dark. Median and posterior tarsi dark.



*Bargylia africana* sp.n., female. — Fig. 1, Dorsal view, antennae and legs omitted; fig. 2, head, lateral aspect, tubercles only shown for dorsal and ventral surfaces; fig. 3, fore leg; fig. 4, base of fore femur; fig. 5, apex of tarsus with claws; fig. 6, genital segments, seen from above and behind; fig. 7, idem, lateral view; fig. 8, idem, seen from below. — Wygodzinsky del.

The whole body surface with large and distinctive tubercles, upon which there is inserted a very tiny bristle.

Shape of head and rostrum as in figs. 1 and 2; tubercles very evident, also present on the clypeal process. Ventral surface of head with 1+1 submedian longitudinal series of tubercles which are longer than the remaining ones and form a bucculae-like structure. Antennae bare; first segment slightly swollen subbasally. Length of first article 4.0 mm; relative length of articles = 1 : 0.76 : 0.09 : 0.18.

Thorax as in fig. 1, strongly granulated on its dorsal, lateral and ventral surfaces; tubercles irregularly arranged, with exception of the pronotum where they form 1+1 well perceptible submedian longitudinal rows. Pronotum simple, its posterior border slightly emarginate; posterior lobe not perceptible. Metanotum much shorter than mesonotum, with a median longitudinal carina.

Fore legs as in figs. 3-5. Median and posterior legs simple and relatively short; posterior femora not surpassing apex of abdomen.

Abdomen as in fig. 1, fusiform, strongly granulose on dorsal and ventral surfaces. Tubercles irregularly arranged, approximated on posterior sternites and forming strong and irregular rugae. Connexivum moderately wide dorsally and very wide ventrally. Tergites without any elevations on posterior border; first tergite subtriangular. Genitalia as in figs. 6-8. All sternites with a very delicate median longitudinal carina.

Material examined: Hennops River, Pretoria District, Transvaal, South Africa, 9-VIII-1950, A. L. Capener col. (1 female, holotype, Transvaal Museum).

The finding of a *Bargylia* in South Africa is of great interest, considering that the only species of the genus so far described, *stali* Wygodzinsky, 1951, occurs in Western Australia and New South Wales. *B. africana* differs from the Australian species by numerous characters, among which are the different pattern, the strongly developed granulation of head and body, the somewhat different proportions of the thoracal segments and the different shape of the genital region. There is no doubt, however, that both species are congeneric.

#### *Ploiaria hewitti* China, 1925.

Material examined: Cape Town, J. C. Bridwell col. (1 female, United States National Museum).

This specimen, which is not very well preserved, agrees fairly well with the original description of the species, though it is larger (about 11 mm, against 9.5) and the thoracal nota seem to be slightly different in proportion. *P. hewitti* has been described from the Grahamstown region, not very far from the locality of the present specimen. Until further individuals from Cape Town prove that this is another species, we feel confident in maintaining our determination.

***Ploiaria capeneri* sp.n.**

Apterous female. — Total length 19.3 mm; head 1.8, thorax 6.0 and abdomen 11.5 mm.

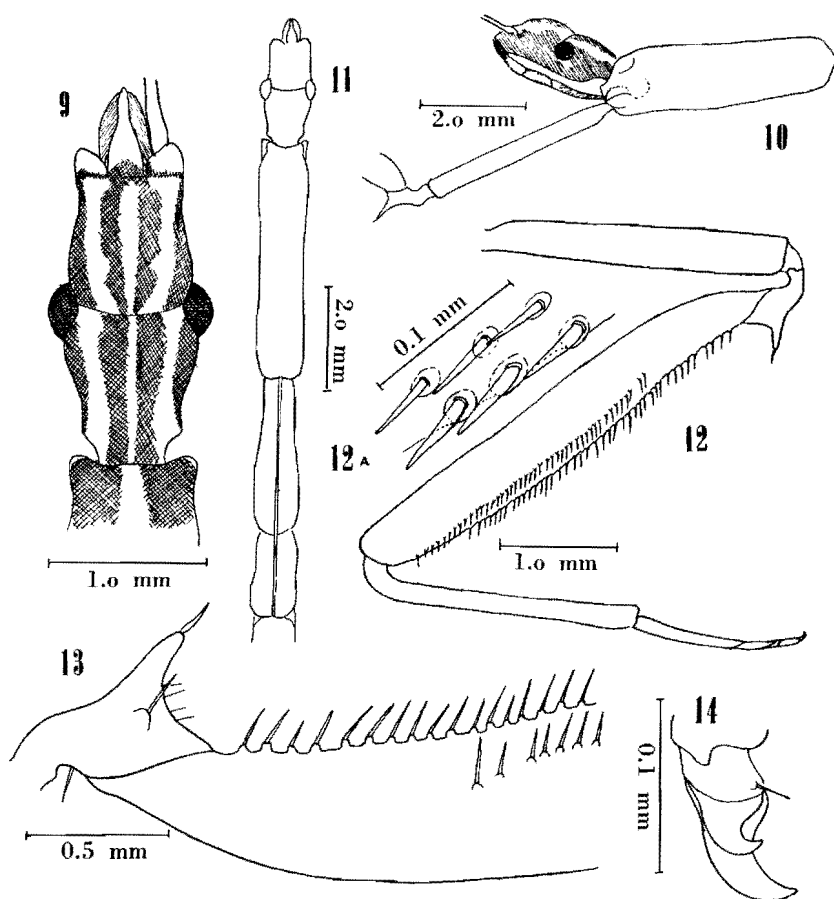
General colour dark piceous. Head dorsally and laterally with several yellowish fasciae, as in figs. 9-10; ventral surface uniformly dark. Base and ventral surface of first segment of rostrum dark, the rest yellowish white; second segment yellowish-white, with exception of superior and inferior border; third segment dark with exception of extreme apex and base. First segment of antennae yellowish brown, lighter towards base, with a broad subapical yellowish and an apical piceous annulus; second segment dark brown, with a short subbasal and an apical whitish annulus; third segment brown; fourth almost white, its tip brown. Pro-, meso- and meta-thorax dark piceous below and at sides; the lateral carinae, the upper half of the anterior acetabula and a dorsal median longitudinal band yellowish white; dorsal surface mottled with brown. Inner surface and inferior half of outer surface of fore coxa piceous; remaining part of dorsal surface yellowish, mottled with brown. Fore trochanter piceous, its anterior border yellowish white. Ventral surface and the lower half of the lateral surface of fore femur piceous; dorsal surface yellowish-white, indistinctly mottled with brown. Fore tibia yellowish, base and apex darker. Base of first segment of fore tarsus as well as second and third segments, piceous; the larger part of first segment yellowish-white. Claws yellowish. Mid and hind coxae and trochanters mostly dark piceous. Mid and hind femora yellowish-white, along their whole length with not very distinct small rounded linear arranged dark spots; the apical sixth occupied by a dark piceous annulus which becomes somewhat less distinct on dorsal surface; this annulus preceded by a whitish subapical one which is about half as long as the apical, and a dark submedian annulus which is about as long as the apical, however slightly less distinct. Tibiae brownish, a short basal piceous annulus followed by a longer whitish and another piceous one. Abdomen dark piceous below, mottled with yellowish and reddish brown above.

Body surface subshining, very finely reticulate, the reticulation uniform, not forming a pattern. Ventral surface of thoracical segments delicately, however distinctly rugose transversally. Antennae, rostrum and fore legs polished.

Shape of head as in figs. 9-11. Eyes very small, the interocular space dorsally about three times their width. Interocular sulcus transverse. Rostrum delicate, the shape and relative length of its segments as in fig. 10. Antennae slender and very elongate, bare. Length of first segment 10.0 mm; relative length of segments = 1 : 0.9 : 0.12 : 0.17.

Pronotum subcylindrical, somewhat less than twice the length of the head, and as long as meso- and metanotum together. Apparent

posterior border of prosternum excavate in middle; superior part of anterior acetabulum slightly pointed; lateral carina of prothorax not perceptible, however indicated by a clear-coloured longitudinal line; dorsal surface without carina or sulcus, simply convex. General shape of meso- and metanotum as in fig. 11; rather flat above, both with 1+1 sharp lateral and a less distinct however well developed dorsal carina which is slightly widened at its anterior and posterior extremity. Metanotum considerably shorter than mesonotum; much longer than wide (length/maximum width = 1.7). Wing pads completely absent.



*Ploiaria capeneri* sp.n., female. — Fig. 9, Head, dorsal view; fig. 10, head and prothorax, lateral view; fig. 11, head and thorax, dorsal aspect; fig. 12, fore leg; 12 A, spiniform setae of ventral surface of fore tibia; fig. 13, fore trochanter and base of fore femur; fig. 14, praetarsus and claws. — Wygodzinsky del.

Fore legs as in figs. 12-14. Fore coxa slightly shorter than prothorax, tibia somewhat shorter than coxa. Trochanter with a large spiniform bristle-bearing process, on inner surface an additional spine-like seta. Femur moderately swollen. Postero-ventral series composed of about 50 short subequal pigmented spine-like bristles inserted upon very short bases; length of spines  $1/5-1/3$  of diameter of femur; antero-ventral series composed of similar, however even shorter setae, beginning at end of basal third of segment, not or very indistinctly interrupted near base. Fore tibia and tarsus together almost as long as femur, tarsus attaining four sevenths of the length of the tibia. The latter ventrally with two rows of very short pigmented adpressed spine-like setae, the same present on basal segment of tarsus. Basal segment of tarsus considerably longer than second and third together, the second twice as long as the apical. Two subequal claws present. Mid and hind legs very slender and elongate, the posterior femora surpassing apex of abdomen by about one third of their length. Length of femur II 11.5, tibia II 15.0, femur III 15.5 and tibia III 20.5 mm.

Abdomen (not well preserved in specimen examined) slender, elongate fusiform, flattened above, convex below, apparently without special structural characters.

Material examined: Umtentweni, Natal, 5-VII-1951, Capener col. (1 female, holotype, Transvaal Museum).

This species which I have pleasure in dedicating to its collector differs from all known African apterous *Ploiaria* by very numerous details, such as the colour pattern, shape and armature of fore legs, its large size and the relatively very elongate meso- and metanotum. The last mentioned character also serves to distinguish *capeneri* from the remaining apterous *Ploiaria* described from other parts of the world, and gives the species a special position within the genus. I would not however consider making this the type of a new subgenus or genus; *Ploiaria* is the most plastic genus within the subfamily, and characters used as indicators of generic differences in other groups are here of not more than specific value.

### ***Gardena chinai* sp.n.**

Winged form. — Length of male and female 11 mm; in the male, head 1.3, pronotum 2.7 and distance from posterior border of pronotum to apex of abdomen, 7 mm.

General colour dark reddish brown; ventral surface of thorax and abdomen, piceous. Mid and hind legs yellowish brown, darker towards apices of femora and bases of tibiae. In these regions on mid and hind legs a short whitish annulus is encountered subapically on the femora and subbasally on the tibiae. Fore wings dusky, the veins reddish brown; in the female examined, their bases appear yellowish.

Body surface with minute reticulations, slightly shining; hind lobe of pronotum somewhat more shining, though not polished; its whole surface with exception of lateral borders and humeral callosities, conspicuously wrinkled, the rugae transverse on anterior third, radial on posterior two thirds.

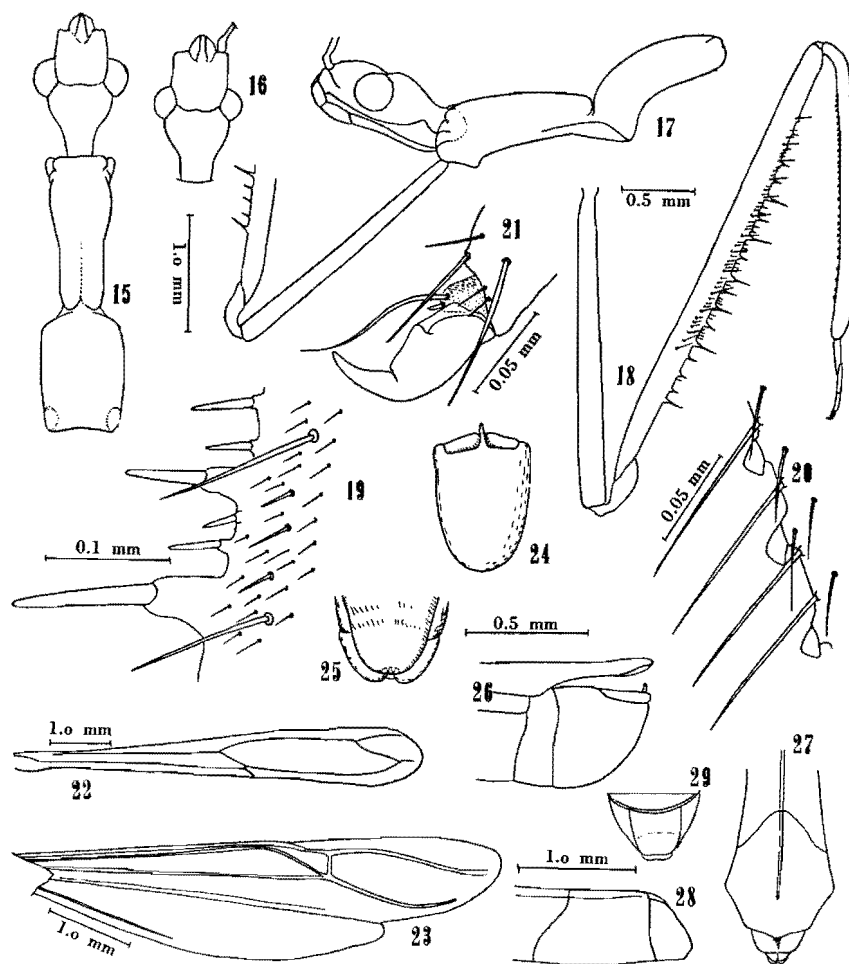
Shape of head as in figs. 15-17, the posterior lobe strongly rounded and then constricted behind. Distance between eyes of male dorsally slightly less than twice their width, in the female slightly larger than twice their width. Eyes of male reaching dorsal surface in lateral view, but not so in female. Shape and relative size of rostral segments as in fig. 17. First segment of antennae of male with numerous long and delicate erect hairs, the length of which corresponds to about three times the diameter of the article; second to fourth segments with short adpressed bristles only. First segment of antennae of female bare, the remaining as in male. Length of first segment of male 5.2 mm; relative length of articles = 1 : 0.85 : 0.08 : 0.21.

Pronotum as in figs. 15 and 17; anterior lobe separated from posterior one by a profound sulcus. Fore lobe somewhat swollen on anterior half, on its posterior half with a faint but distinct shallow median longitudinal sulcus. Hind lobe attaining  $\frac{4}{5}$  of the length of the fore lobe, subrectangular, its sides slightly convergent towards behind, the humeral callosities distinct, suboval; posterior border faintly but distinctly emarginated.

Fore wings attaining base of last abdominal tergite, in both sexes; their venation as in fig. 22. Hind wings complete, their venation as in fig. 23.

Fore legs as in figs. 18-21. Fore coxa almost as long as pronotum; fore tibia very slightly shorter than coxa, attaining five eighths of the length of the femur. Distance from first spine of postero-ventral series of femur to base of article equal to about one eighth of the total length of the article, or about three times the length of that spine plus its base; the same distance separates the last distinct spine from apex of article. Mid and hind legs without special characters; length of femur II 6.2, tibia II 9.0, femur III 9.0 and tibia III 13.5 mm. Hind femora surpassing apex of abdomen by about one third of their length.

Abdomen elongate fusiform, ventral surface without distinct median carina, with exception of last sternites of female. The three first visible sternites of equal length. Posterior border of sternites slightly emarginate, of segments V and especially VI very strongly so. Posterior borders of sternites VII and VIII of male almost straight; sternite VII of female slightly salient in middle behind. Last tergite of male (fig. 25) broad, regularly rounded behind, almost completely covering the hypopygium and the claspers, with not very



*Gardena chinai* sp.n. — Fig. 15, Head and pronotum of male, dorsal aspect; fig. 16, head of female, dorsally; fig. 17, head and pronotum of male, lateral view; fig. 18, fore leg; fig. 19, detail of central part of fore femur; fig. 20, spines and bristles of ventral surface of fore tibia; fig. 21, praetarsus and claws of fore leg; fig. 22, venation of fore wing; fig. 23, venation of hind wing; fig. 24, hypopygium, seen from behind; fig. 25, apex of abdomen of male, dorsal view; fig. 26, idem, lateral aspect; fig. 27, apex of abdomen of female, ventral aspect; fig. 28, idem, lateral view; fig. 29, idem, seen from behind. — Wygodzinsky del.



conspicuous transverse wrinkles. Hypopygium short, of regular outline (fig. 26), its postero-superior border with a short spine-like process in middle (figs. 24 and 26). Claspers short, parallel-sided in lateral view, strongly and shortly curved apically. Shape of genital segments of female as in figs. 27-29.

Material examined: Verulam, Natal, South Africa, 4-VII-97, nos. 262 and 273 (1 male, holotype, 1 female, allotype, British Museum (Natural History) no. 1911-493).

The new species described above which I take much pleasure in dedicating to Dr. W. E. China, differs from the known species of *Gardena* by its very short anterior pronotal lobe, the deep incision between the former and the hind lobe, and the anterior tibiae which are longer than half the length of fore femur. These features would bring our species near *Lutevopsis* Champion, a genus the true value of which still remains to be established. *Lutevopsis muscicapa* Bergroth, 1906, from Borneo, differs from *chinai* among other characters by the second visible abdominal sternite which is shorter than either the first or the third; *Lutevopsis longimanus* Champion, 1898, from Central and Southern North America differs from *chinai* by its smaller eyes, the rather differently shaped pronotum, etc.

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